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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/345,193	06/30/1999	KUI ZHANG	112025-0138	9934

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EXAMINER	
JAIN, RAJ K	

ART UNIT	PAPER NUMBER
2664	16

DATE MAILED: 09/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/345,193	Applicant(s) ZHANG ET AL.
	Examiner Raj K. Jain	Art Unit 2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7, 13, 14, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie in view of Kompella et al.

Regarding claims 1, 13 and 18, Christie discloses a method and apparatus for providing communications control processing (**see abstract and col 3 lines 35-50**) between number of network elements such as switches, server, nodes etc. The communications network may consist of having a plurality of network nodes (**see Fig 1, col 4 lines 57-60**) the network further including a first entity (NE) disposed at one end of the selected path and a second entity (NE) disposed at a second end of the selected path, the method comprising the steps of;

utilizing at least one path state set-up message formulated by the first entity and passed to each network node along the selected path to establish a path state at each network node along the selected path (**see col1 lines 55-67, col 5 lines 15-27 and claim 1**) for identifying a traffic flow having predefined parameters,

and for forwarding messages matching the predefined parameters of the traffic flow to a next downstream network node along the selected path (**see col 6 lines 11-25**);

Christie further discloses time stamping of messages (**Christie col 20 line 10**), however, Christie does not disclose determining of latency within a selected path of a computer network via the time stamped message.

Kompella discloses determining of latency of messages traveling within a given network by time stamping the packets and measuring the roundtrip delay of a test message transmitted, (**see column 7 lines 35-50**).

transmitting the message from the first entity; in response to receiving the test message at each network node, forwarding the test message from the receiving network node to the next downstream network node along the selected path by virtue of the previously established path states; in response to receiving the test message at a last downstream network node along the selected path, forwarding the test message to the second entity by virtue of the previously established path states; using the time record placed in the test message to determine the latency of the selected path (**see col 4 lines 52-65, col 5 lines 22-52 and claims 1 and 13**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the latency calculations of Kompella within Christie to determine the latency of a particular link that involves the delivery of time sensitive information to the recipient and avoid critical data discard.

Regarding claim 2, network layer addressing is common knowledge in the art for routing of data (see US patent US 6097719 A) and therefore one can easily adapt the use of network addressing within any communications applications as appropriate.

Regarding claims 3, and 19 Christie discloses source routing and determination of a communications path via table look-ups (see col 14 lines 10-61 and Fig 4).

Regarding claims 4-6 and 14, Christie discloses establishment and formulation of a path setup via node-to-node connection (see Figs 1 & 2, col 1 line 55-67, col 5 line 18-col 6 line 25 and col 15 lines 42-55).

Regarding claim 7, the use of a clock management facility between the entities is inherent in order to determine the latency (as taught by Kompella) between the nodes/entities and therefore must be included to measure the delay between two points.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie in view of Masters et al. Christie discloses a method and apparatus for providing communications control processing (**see abstract and col 3 lines 35-50**) between number of network elements such as switches, server, nodes etc. The communications network may consist of having a plurality of network nodes (**see Fig 1, col 4 lines 57-60**) the network further including a first entity (NE) disposed at one end of the selected path and a second entity (NE) disposed at a second end of the selected path.

Christie does not disclose source routing within a network.

Masters discloses source routing and sequential ordering by use of routing tables that have dynamic capabilities, which update information for each node as messages arrive and depart, (**see col 3 lines 40-70**). Source routing provides efficiency for message delivery by allowing each node to actively decide and update its route table for the best possible path to the next node of delivery. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include Masters source routing technique within Christie

to improve message delivery within the network, by allowing each node to update its route table with available path information of the connecting nodes.

Claims 10-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie in view of Masters et al. and further in view of McCloghri et al. Christie discloses a method and apparatus for providing communications control processing (**see abstract and col 3 lines 35-50**) between number of network elements such as switches, server, nodes etc.

Masters discloses source routing and sequential ordering by use of routing tables that have dynamic capabilities, which update information for each node as messages arrive and depart, (**see col 3 lines 40-70**).

Christie and Masters do not disclose the setup message having a sender traffic specifier. McCloghri discloses the use of traffic specifiers used to provide a "profile" or threshold for a link to avoid congestion and to properly route the packets from one node to the next without it being dropped, (**see abstract, col 3 lines 40-60 and col 11 lines 12-25**). McCloghri further discloses the use of a router alert option (per claim 11) that act as policy enforcers (210) (**see Fig 2**). The use of a traffic specifier and a router alert option reduces packet loss between nodes by providing status of traffic flow (congestion) to the originating node. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include McCloghri's traffic flow profile scheme within Christie to reduce packet/data loss within the communications network.

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie in view of Kompell et al. further in view of Woundy. Christie discloses a method and apparatus for providing communications control processing **(see abstract and col 3 lines 35-50)** between number of network elements such as switches, server, nodes etc.

Kompella discloses determining of latency of test messages traveling within a given network by time stamping the packets and measuring the roundtrip delay of a test message transmitted, **(see column 7 lines 35-50)**.

Christie and Kompella do not disclose the signaling protocol processor as a resource reservation protocol processor.

Woundy discloses a packet classifier, packet scheduler and the RSVP protocol, **(see col 1 lines 35-50)**. The use of a RSVP modules with the packet classifier and packet scheduler provides a method for dynamically allocating network resources with a desired QoS where needed within the network, see claims 1-5. This provides for efficient use of bandwidth amongst the nodes with minimal delay and efficient traffic flow within the network. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Woundy with Kompella within Christie, to dynamically allocate network resources providing the most efficient use of bandwidth within the network.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj K. Jain whose telephone number is 703-305-5652. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 305-3988, (for formal communications intended for entry)

Or:

(703) 305-3988 (for informal or draft communications, please label "Proposed" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

RJ
September 3, 2003